



# Adolescent-specific provider training and provision of services is associated with retention in Kenyan HIV clinics

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## Background

- Over 80% of adolescents and young adults (AYA) with HIV live in Africa<sup>1</sup>
- Kenya is among 9 countries with 2/3 of all AIDS-related AYA deaths in 2016<sup>1</sup>
- AYA have lower retention, adherence and viral suppression than adults<sup>2,3,4</sup>
- Individual, family, social, and health service factors may affect poor retention in HIV care among AYA, though data are limited<sup>3</sup>
- Health-service factors on AYA retention have not been evaluated and may inform interventions to improve engagement and clinical outcomes

## Methods

- Retrospective cohort analysis using baseline data from the SPEED trial (ClinicalTrials.gov Number NCT02928900)<sup>5</sup>
- Abstracted electronic medical records (EMR) from AYA ages 10-24 attending 24 HIV care facilities between 1 November 2015 and 31 March 2017 (Figure 1)
- Facility surveys assessed any prior AYA-specific trainings and services, and provider surveys assessed history of AYA trainings and work experience
- Primary outcome:** Retention in care defined as return for first follow-up visit <3 months among newly enrolled or recently re-engaged AYA. Records censored if <3 months between first visit and March 31, 2017.
- Correlates:** Individual EMR data and group-level facility data from surveys
- Analysis:** Individual provider responses were averaged to the facility level. Multilevel regression models with a log link was used to estimate risk ratios (RRs) and 95% Confidence Intervals (CIs) between individual and facility correlates and AYA retention, accounting for clustering by facility

## Results

### Summary of EMR data

- 3,662 AYA records included in the analysis (Table 1)
- Most AYA were ages 20-24 (54.5%), female (75.1%), and on ART at first eligible visit in the cohort (75.9%)
- Age of first HIV diagnosis** most common before age 10 (26.7%) or between 20-24 (38.0%)

**Table 1. Sociodemographic and clinical characteristics of adolescents and young adults in EMR data**

Characteristic	N=3,662 records, n (%)
Newly enrolled on/after 1 November 2015	1,780 (48.9)
Age	
10-14	644 (17.6)
15-19	1,026 (28.0)
20-24	1,992 (54.4)
Female	2,749 (75.1)
Pregnant (n=2,144 females)	345 (16.1)
Age of HIV diagnosis (n=2,667)	
<10	712 (26.7)
10-14	342 (12.8)
15-19	600 (22.5)
20-24.9	1,013 (38.0)
On ART at first eligible visit	2,905 (75.9)
Age group at ART initiation (n=3,510)	
<10	635 (18.1)
10-14	464 (13.2)
15-19	745 (21.2)
20-24.9	1,671 (47.5)

### AYA retention in HIV care and individual correlates

- 2,639 (72.1%) of AYA were retained in care (95% CI: 70.6-73.5%)
- Factors associated with higher retention after adjusting for age and clinic volume:
  - ✓ **Older age at HIV diagnosis** (aRR: 1.03, 95% CI: 1.00-1.07)
  - ✓ **Older age at ART initiation** (10-14 years aRR: 1.32, 1.09-1.62; 15-19 years aRR: 1.59, 1.15-2.19; 20-24 years aRR: 1.90, 1.26 -2.87)
  - ✓ **Current pregnancy** (aRR: 1.09, 1.08-1.19)



### Facility correlates of AYA retention in care

- Facilities with **AYA specific provider training** had significantly higher AYA retention (Table 2)
- Facilities using **APOC checklist** had significantly higher AYA retention
- Facilities in **Western Kenya** had higher AYA retention compared to those in Central Kenya
- Retention did not differ by presence of "Youth Friendly" services or spaces
- From provider surveys, facilities with a **higher proportion of providers reporting prior training in HIV care for AYA** had significantly higher retention (aRR 1.56, 95% CI: 1.13-2.16)

**Table 2. Facility correlates of adolescent and young adult retention in care**

Factors	Denominator Adolescent EMR N=3,662	Retained n(%) or median IQR n=2,639	RR 95% CI, p-value	aRR 95% CI <sup>a</sup> , p-value
Central Region, 16 facilities <sup>ref</sup>	1,328	1,541 (66.0)		
<b>Western Region, 8 facilities</b>	2,334	1,098 (82.7)	1.09 (0.99-1.21), 0.09	<b>1.17 (1.02-1.33)<sup>b</sup>, 0.03</b>
Facilities without training	2,767	1,874 (67.7)		
<b>Facilities with training in AYA care</b>	895	765 (85.5)	<b>1.13 (1.02-1.24), 0.02</b>	<b>1.11 (1.01-1.22), 0.02</b>
Facilities without YF services	3,045	2,127 (69.9)		
Facilities with YF services	617	512 (83.0)	1.06 (0.97-1.17), 0.17	1.06 (0.97-1.17), 0.22
Facilities not using APOC checklist	3132	2,169 (69.2)		
<b>Facilities using APOC checklist</b>	530	471 (88.9)	<b>1.15 (1.06-1.25), 0.001</b>	<b>1.14 (1.06-1.23), &lt;0.001</b>

AYA, Adolescent and Young Adult; APOC, Adolescent Package of Care Checklist; YF, Youth Friendly; Ref, Reference group; <sup>a</sup>Regression outcomes in all models are individual-level AYA retention; <sup>b</sup>Facility models were adjusted for individual AYA age, median AYA age per facility, and AYA client volume.

### Summary of facility and provider surveys

- Facilities reported the following AYA training and services:
  - ✓ **8 (33.3%) offered training in AYA HIV care**
  - ✓ **5 (20.8%) had "Youth Friendly" spaces or services**
  - ✓ **5 (20.8%) used Kenya's Adolescent Package of Care (APOC) Checklist, a job aid for clinic visits with AYA** (Figure 2)
- Among 142 providers, most were nurses or clinical officers (45, 59.9%), female (107, 71.8%), had served HIV-positive AYA for 3 years (IQR: 1-6). Less than half reported receiving AYA training:
  - ✓ **51 (35.9%) "Youth Friendly" services**
  - ✓ **17 (12.0%) specialty care of HIV positive AYA**

## Conclusions

- We found sub-optimal retention in HIV care in a large clinical population of AYA in Kenya
- Youth-friendly services alone, without targeted provider training, may be insufficient to engage AYA in HIV care
- Novel HIV training interventions are needed to achieve the '90-90-90' targets for AYA



References: <sup>1</sup>UNAIDS 2017, <sup>2</sup>Slogrove 2017 JIAS, <sup>3</sup>Lamb 2014 AIDS, <sup>4</sup>Ferrand TM&IH 2016, <sup>5</sup>Wilson 2017 Trials  
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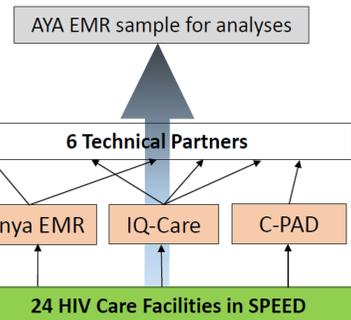


Figure 1. EMR abstraction process

Figure 2. Adolescent Package of Care Checklist